Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended)   A method for collecting and analyzing first data on a first communication line comprising the steps of:
(a) receiving the first data from the first communication line;
(b) segregating the first data into packets;
(c) selecting packets based on a respective first characteristic of each packet;
(d) associating a respective index with each of the selected packets;
(e) converting each of the selected packets into a respective record including its respective index;
(f) storing the records;
(g) ~~storing~~ generating a count based on a respective second characteristic of each of the selected packets received during each of a plurality of successive periods.

2. (Canceled).

3. (Currently Amended)   A method ~~for collecting and analyzing first data transmitted on a first communication line~~ comprising the steps of:
(a) receiving ~~the~~ first data from ~~the~~ a first communication line;
(b) segregating the first data into packets;
~~(c) selecting packets based on a respective type of each packet;~~
~~(d) associating a respective index with each of the selected packets;~~
~~(e) converting each of the selected packets into a respective record including its respective index;~~
~~(f) storing the records;~~
~~(g) receiving a first duration value corresponding to a first time period;~~
(~~h~~c) generating ~~at least one~~ a statistic corresponding to packets received during each of a plurality of successive first time periods, the first time periods having a first duration value; ~~and~~
(~~i~~d) separately storing the generated ~~value of at least one statistic~~ statistics for each of the ~~a~~ plurality of successive first time periods; and
(e) generating a further statistic by aggregating the plurality of stored statistics.

4. (Currently Amended)   The method according to claim 3 ~~further~~ comprising:
selecting packets based on a respective type wherein the statistics generated in step (c) correspond to the selected packets;
associating a respective index with each packet;
converting each packet into a respective record including each packet's respective index; and
storing the records ~~the step of generating a further statistic using at least one of the stored records and the stored at least one statistic~~.

5. (Currently Amended)   The method according to claim ~~3~~4 further comprising the steps of:

receiving a second duration value corresponding to a second time period longer than the first time period; and

generating ~~a~~the further statistic corresponding to packets received during the second time period encompassing at least one first time period using at least one of the stored records and the stored statistics corresponding to packets received during the second time period ~~at least one statistic~~.

6. (Currently Amended)   The method according to claim 3 wherein the ~~at least one~~ statistic includes at least one of a number of bits, a number of bytes, a number of packets, a number of packets of a predetermined protocol, a number of packets of a predetermined protocol layer, a number of packets having a predetermined source address, and a number of packets having a predetermined destination address of a respective packet.

7. (Currently Amended)   The method according to claim ~~3~~4 wherein a record includes a portion of ~~its~~ said record's respective packet plus ~~its~~ said packet's respective index.

8. (Currently Amended)   The method according to claim ~~3~~4 wherein the respective index of a packet corresponds to a time when the packet was received.

9. (Currently Amended)   A method according to claim 8 further comprising the steps of receiving a time signal from a global positioning satellite ~~indicating an absolute time~~ and generating the time when ~~a~~ the packet was received based on the absolute time.

10. (Currently Amended)   A method according to claim 3 wherein the received packets originated from a second communication line and each received packet includes an indication of a respective first time corresponding to ~~its~~ transmission of said packet on the second communication line, the method further comprising:

determining a respective second time when each packet is received from the first communication line; and

~~generating~~ calculating a transmission delay corresponding to each packet by subtracting ~~its~~ said packet's respective second time from ~~its~~ said packet's respective first time.

11. (Currently Amended)   A method according to claim 10 wherein the transmission delay corresponding to each packet is calculated based on a time the packet is detected on ~~a~~ the first ~~link~~ communication line, a time the packet is detected on the ~~a~~ second communication line ~~link~~, a rate of data transmission on the first communication line ~~link~~, and a length of the packet on the first communication line ~~link~~.

12. (Original) The method according to claim 3 wherein step (a) includes receiving the first data from the first communication line using a non-intrusive coupling to the first communication line.

13. (Currently Amended)   The method according to claim ~~3~~4 further comprising the step of receiving information indicating at least one of a type of packets to be selected ~~in step (c)~~, the first duration value, and an identification of ~~which~~ the statistics to generate in step (~~h~~c).

14. (Original) The method according to claim 13 wherein the information is received via the first communication line.

15. (Canceled).

16. (Original) A method according to claim 10 including the step of receiving a time signal from a global positioning satellite for determining the second time.

17. (Currently Amended)   A method according to claim 3 4 wherein step (h c) includes generating at least one quality of service value for each successive time period corresponding to packets of a predetermined packet type received during each respective successive time period.

18. (Original) A method according to claim 17 wherein the at least one quality of service value indicates at least one of a round trip delay and a retransmit rate corresponding to the packets of the predetermined packet type received during the respective successive time period.

19. (Currently Amended)   A method according to claim 3 wherein step (c) includes comprising determining a respective type of each packet based on at least one of a corresponding application type, a corresponding packet content, a packet source, and a packet destination for selecting packets based on the respective type.

20. (Currently Amended)   A method according to claim 3 wherein the first communication line is in a network including a user and step (h c) includes generating at least one user profiling statistic for each successive time period corresponding to packets destined to or from a user which are received during each respective successive time period.

21. (Original) A method according to claim 20 wherein the at least one user profiling statistic is generated using the records stored in the memory.

22. (Currently Amended)   A method according to claim 3 further comprising the step of receiving an input from a user identifying a user statistic and step (h c) includes generating the identified user statistic.

23. (Currently Amended)   A method according to claim 3 further comprising the steps of:
receiving an input from a user identifying a user statistic; and
generating the identified user statistic using at least one of the stored statistics and the stored records.

24. (Original) A method according to claim 3 wherein the first data is transmitted on the first communication line according to a first protocol, the method further comprising the step of receiving decoding parameters corresponding to the first protocol and step (a) includes receiving the first data according to the decoding parameters and step (b) includes segregating the received first data into packets according to the decoding parameters.

25. (Currently Amended)   A method according to claim 3 wherein comprising:
counting packets of each a plurality of packet types received during each of the successive first time periods; and step (h) includes generating a separate count for each of a plurality of packet types corresponding to a number of packets of each respective one of the plurality of packet types received during each respective successive time period; and the method further comprises the step of
displaying the plurality of packet types and their corresponding statistics counts accumulated over a second time period greater than the first time period in a first portion of a display area of a display device.

26. (Currently Amended)   A method according to claim 25 wherein the plurality of packet types are selectable by a user and the method ~~further~~ comprises ~~the steps of:~~ receiving a user selection of one of the packet types by a user~~;~~ and displaying statistics corresponding to packets of the selected packet type received during the second time period.

27. (Original) A method according to claim 25 further comprising the step of graphically displaying the statistics corresponding to the plurality of packet types in a plot over the second time period in a second portion of the display area.

28. (Original) A method according to claim 25 further comprising the step of: generating a graphical display of the statistics corresponding to the plurality of packet types in a plot ranging over the second time period in a second portion of the display area, wherein the plot includes a plurality of discrete selectable time periods; receiving a user selection of a range of the plurality of discrete selectable time periods; updating the graphical display to display statistics corresponding to the selected time periods.

29. (Currently Amended)   A method according to claim ~~3~~ 4 further comprising the steps of: identifying packets belonging to a data stream; storing stream identification information as one of a separate record and a separate field in the records corresponding to the identified packets.

30. (Original) A method according to claim 29 further comprising the step of recreating the data stream using the stored records and the stored stream identification information.

31. (Currently Amended)   A method according to claim ~~3~~ 4 wherein
the first communication line is in a network including a second communication line,
~~step (d) includes determining a respective time value corresponding to a time when each of the selected packets was received and~~ the respective index associated with each selected packet includes ~~its~~ said packet's respective time value, and
step ~~(e) includes converting~~ each ~~of the selected packets into a respective~~ record ~~which~~ includes a uniquely identifiable portion of the respective selected packet; and
the method further comprises the steps of:
receiving second data from the second communication line;
segregating the second data into packets;
~~determining a respective type of each packet received from the second communication line;~~
selecting packets received from the second communication line based on ~~their~~ a respective type of each packet;
determining a respective time value corresponding to a time when each of the selected packets received from the second communication line was received;
associating a respective index with each of the selected packets received from the second communication line, the respective index including the respective time value ~~corresponding to a time when the packet was received from the second communication line~~;
~~convert~~ converting each of selected packets received from the second communication line into a respective record that includes a uniquely identifiable portion the selected packet from the second communication line and includes ~~its~~ said packet's respective index;
storing the records corresponding to the selected packets received from the second communication line ~~in a third memory~~;
comparing the uniquely identifiable portions of packets received from the first communication line to the uniquely identifiable portions of packets received from the second

communication line ~~in records stored in the memory to those in records stored in the third memory~~ to determine which selected packets received from the first communication line correspond to packets received from the second communication line to generate matched pairs of packets;

generating a transmission delay corresponding to each matched pair of packets using their respective indexes.

32. (Original) The method according to claim 31 wherein the transmission delay for a particular matched packet is calculated based on a time of receipt of the matched packet on the first transmission line, a time of receipt of the matched packet on the second transmission line, a rate of data transmission on the first transmission line, and a length of the matched packet on the first transmission line.

33. (Original) A method according to claim 32 wherein the first communication line transmits data using a first protocol and the second communication line transmits data using a second protocol different from the first protocol.

34. (Original) A method according to claim 31 wherein the transmission delay is generated at a level of accuracy less than 10 microseconds.

35-63. (Canceled).

64-69. (Canceled).

70-71. (Canceled).

72. (Canceled).

73-77. (Canceled).

78. (Currently Amended)   A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps ~~for collecting and analyzing first data transmitted on a first communication line, said method steps~~ comprising:

(a) receiving ~~the~~ _a_ first data from ~~the~~ _a_ first communication line;

(b) segregating the ~~received~~ first data into packets;

~~(c) determining a respective type of each packet;~~

~~(d) selecting packets based on their respective type;~~

~~(e) associating a respective index with each of the selected packets;~~

~~(f) converting each of the selected packets into a respective record including its 11 respective index;~~

~~(g) storing the records in a first memory;~~

~~(h) receiving a first duration value corresponding to a first time period;~~

(~~i~~c) generating ~~at least one~~ _a_ statistic corresponding to packets received during each _of a plurality of_ successive _first_ time period~~s~~_, the first time periods having a first duration value_; ~~and~~

(~~j~~d) _separately_ storing the _generated statistics_ ~~at least one statistic~~ for each _of the plurality of_ successive _first_ time ~~period~~ _periods_ ~~in a second memory~~; and

(e) _generating a further statistic by aggregating the plurality of stored statistics._

79. (Currently Amended)   A method according to claim ~~34~~ 34 ~~, further~~ comprising _selecting packets corresponding to communication sessions and step (c) comprises generating a_

number of packets corresponding to unsuccessful communication sessions received during each successive first time period~~the steps of: (l) selecting packets corresponding to particular communication sessions; and (m) identifying which of the packets selected in step (l) correspond to unsuccessful communication sessions~~.

80. (Currently Amended)   A method for processing data according to claim 79 wherein the respective type is packets corresponding to TCP sessions and the method~~: step (l)~~ comprises selecting packets corresponding to TCP sessions~~;~~ and step (c~~m~~) comprises ~~identifying packets corresponding to unsuccessful TCP sessions; and the method further comprise the step of: (n)~~ generating a ratio of a quantity of unsuccessful TCP sessions to a quantity of total TCP sessions during a time period.

81. (Currently Amended)   A method according to claim 80 wherein ~~in step (m)~~ the unsuccessful TCP sessions are identified to be those TCP sessions that were closed by other than a corresponding server.

82. (New) A method according to claim 11 wherein the transmission delay corresponding to each packet is calculated using the equation

transmission delay = (ts1-ts2)-(link_speed /packet_length)

where ts1 and ts2 are the first and second times, respectively, the link_speed is a data rate on the first communication line, and the packet_length is the length of each respective packet on the first communication line.

83. (New)   A method according to claim 4 wherein the first communication line is in a network including a second communication line and the method further comprises correlating the packets received from the first communication line to packets received from the second communication line.

84. (New)   A method according to claim 31 further comprising the steps of:
generating flow statistics based on the flow of data between the first and second communication lines; and
routing further data between the first and second communication lines based on the generated flow statistics.

85. (New)   A method according to claim 3 wherein the data is collected and analyzed by a host computer having a network interface card coupled to the first communication line, the method further comprising the steps of:
requesting an interface clock value from the network interface card;
generating an adjusted interface clock value by subtracting a predetermined service time from the interface clock value;
providing the adjusted interface clock value to the host computer;
receiving a host clock value; and
correlating the adjusted interface clock value with the host clock value.

86. (New)   A system for collecting and analyzing first data on a first communication line comprising:

means for receiving the first data from the first communication line;
means for segregating the first data into packets;
means for selecting packets based on a respective first characteristic of each packet;
means for associating a respective index with each of the selected packets;
means for converting each of the selected packets into a respective record including its respective index;
means for storing the records; and
means for generating a count based on a respective second characteristic of each of the selected packets received during each of a plurality of successive periods.

87. (New)   A system comprising:
means for receiving first data from a first communication line;
means for segregating the first data into packets;
means for generating a statistic corresponding to packets received during each of a plurality of successive first time periods, the first time periods having a first duration value;
means for separately storing the generated statistics for each of the plurality of successive first time periods; and
means for generating a further statistic by aggregating the plurality of stored statistics.

88. (New)   A system comprising:
a network interface for receiving first data from a first communication line;
a packetizer for extracting a plurality of packets from the first data;
a memory;
a processor for generating a first statistic corresponding to packets received during each of a plurality of successive first time periods, the first time periods having a first duration value, storing the generated statistics for each of the plurality of successive first time periods in the memory, and generating a second statistic by aggregating the plurality of stored statistics.

89. (New)   A system according to claim 88 comprising a display device for displaying at least one of the first and second statistics.

90. (New)   A system according to claim 88 comprising a user interface for receiving user input identifying at least one of the first statistics, the second statistics, and the first time period.

91. (New)   A system according to claim 88 comprising:
a time source synchronized to an absolute time source; and
a processor for determining a time when each respective one of the plurality of packets was received from the first communication line.

92. (New)   A system according to claim 91 wherein the time source is a receiver for receiving a time signal from a global positioning satellite.